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Public Service Commission of Wisconsin  
RECEIVED: 07/14/15, 2:38:13 PM

July 14, 2015

Sandra Paske  
610 North Whitney Way  
P.O. Box 7854  
Madison, Wisconsin 53707-7854

**RE: Application of New Richmond Municipal Electric Utility for Approval to Implement a Community Solar Garden Pilot Program – Docket No. \_\_\_\_\_**

Dear Ms. Paske:

On behalf of its member New Richmond Municipal Electric Utility (NRMEU), WPPI Energy submits to the Public Service Commission of Wisconsin this application for approval to implement a community solar garden pilot program. Attached to the application is a proposed Voluntary Community Solar Pilot Tariff, as well as information detailing the derivation of the solar production bill credit and estimated participating customer subscription fee.

Participation in NRMEU's community solar garden pilot program is voluntary, and will not result in a reduction of service for non-participating NRMEU customers. Moreover, this application does not request an increase in rates. Thus, NRMEU does not believe a contested case proceeding or hearing is required.

All correspondence concerning this filing should be sent to each of the following:

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Very truly yours,

Thomas S. Hanrahan  
General Counsel

Attachments

BEFORE THE  
PUBLIC SERVICE COMMISSION OF WISCONSIN

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**Application of New Richmond Municipal Electric Utility  
for Approval to Implement a Community Solar  
Garden Pilot Program**

Docket No. \_\_\_\_\_

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**APPLICATION**

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**A. Overview**

New Richmond Municipal Electric Utility (“NRMEU”) submits this request to implement a community solar pilot program (“Program”) pursuant to Wis. Stats §§ 196.19 and 196.20. The primary goal of this pilot Program is to provide electric customers in NRMEU’s electric service territory a service option that market research indicates is desired. The Program model, developed by WPPI Energy (“WPPI”) for its members, including NRMEU, is outlined in this application. It has been designed to meet a customer need with no adverse rate impacts to non-participating NRMEU customers.

In this application, NRMEU proposes to implement the Program for subscribing customers, through its membership in WPPI.<sup>1</sup> In recent market research,<sup>2</sup> residential customer feedback indicates over 70 percent of customers in WPPI member communities want their utility to continue to go beyond today’s renewable portfolio standard requirements. Yet, only half of these respondents rank their utility’s

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<sup>1</sup> WPPI has also designed its program so that there are no adverse rate impacts to its other members who, like NRMEU are wholesale all-requirements power supply customers of WPPI. Members of WPPI in Wisconsin include: Algoma, Black River Falls, Boscobel, Brodhead, Cedarburg, Columbus, Cuba City, Eagle River, Evansville, Florence, Hartford, Hustisford, Jefferson, Juneau, Kaukauna, Lake Mills, Lodi, Menasha, Mount Horeb, Muscoda, New Glarus, New Holstein, New London, New Richmond, Oconomowoc, Oconto Falls, Plymouth, Prairie du Sac, Reedsburg, Richland Center, River Falls, Slinger, Stoughton, Sturgeon Bay, Sun Prairie, Two Rivers, Waterloo, Waunakee, Waupun, Westby, and Whitehall.

<sup>2</sup> WPPI commissioned a research consultant in January 2015 to conduct a residential customer feedback study.

current efforts in this area as fully meeting their expectations. This research is consistent with feedback from NRMEU customers. Other nationally available research<sup>3</sup> indicates an estimated 49 percent of households and 48 percent of businesses are unable to host a solar electric system. In an effort to combine these findings and address the utility customer perception gap with a market need, NRMEU envisions shared solar, also commonly referred to as a *community solar garden* or *community solar*, implemented in partnership with WPPI, as a viable and economical way for our small, municipally-owned electric utility to be responsive to interested customers without impacting rate base.

A community solar garden is, in basic terms, a solar-electric system that provides power and/or financial benefits to multiple stakeholders within a community. In this model, the actual generation of renewable energy will not occur at a customer's home or business site. Instead, participating customers subscribe to a portion of a larger, shared solar photovoltaic system located centrally and visibly in the community, and the power generated results in each subscriber receiving a portion of the benefit proportional to their participation.

NRMEU's Program will be sponsored by NRMEU and developed and administered by WPPI. WPPI has been working with and will enter into a power purchase agreement with a Wisconsin-based solar developer for the construction of "Community Solar Project I" ("Project"), the first project under the Program. This partner developer was selected through a thorough screening process based on the developer's experience, capabilities and project cost. The anticipated groundbreaking for the Project is summer 2015, subject to approval of this Program by the Public Service Commission of Wisconsin ("Commission").

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<sup>3</sup> *Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation*. (April 2015). U.S. Department of Energy / National Renewable Energy Laboratories.

The Program will not only seek to satisfy customer expectations, but will also be used to help NRMEU, WPPI's members and the Commission better understand the technical, and financial aspects of community solar programs.

## **B. Program Offering**

### *Availability and Eligibility*

Participation in the Program is described in the New Richmond Municipal Electric Utility Voluntary Community Solar Pilot Tariff (“Tariff”) included as Exhibit A. The Program projects will be available on a first-come, first-served basis to all NRMEU electric utility customers, including residential homeowners, renters, and commercial businesses. With an expected Project size of 250 kW, NRMEU expects it will involve 50 to 100 participants to fully subscribe the capacity of the Project.<sup>4</sup> NRMEU currently serves approximately 4,300 electric accounts.

While NRMEU and WPPI have developed a comprehensive marketing plan that could be implemented over a period of months or even years, based on current customer interest, Project subscription availability is expected to sell out rapidly with minimal promotion. NRMEU has already received a substantial number of customer inquiries to participate just in response to preliminary local and governing body discussions about the potential Project.

No other eligibility criteria or restrictions are proposed as long as the customer enters into a Community Solar Participant Agreement (“Agreement”), pays the appropriate subscription fee, and has an electric utility account with NRMEU.

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<sup>4</sup> Based on interviews with other community solar garden hosts and their reported participation trends.

### Program Subscription

Interested customers will be able to subscribe to, or participate in, a project by contributing a one-time customer subscription fee paid upfront to NRMEU. The subscription fee for a given project, to be charged per panel (and in whole increments of panels based on a customer's chosen participation level), is designed to be cost-based, covering the construction costs, operation and maintenance expenses, and upfront promotion and administration, so that at the end of the life of a project, the net present value of costs and benefits to NRMEU and WPPI is equal to zero. The subscription fee will also reflect any anticipated investment tax credits and accelerated depreciation benefits to be realized and passed along by the solar developer to WPPI that result in Program cost savings.

The estimated subscription fee for the Project is included in confidential Exhibit B.<sup>5</sup> A final determination will be made once a power purchase agreement is executed with the Project developer. Once known, the Project subscription fee will be reported to the Commission in a compliance filing, presented in all promotional materials and clearly reflected in an Agreement with each participating customer. If the Project does not reach commercial operation, all subscription fees will be refunded to the subscribing customers.

Because of the subscription success of other community solar garden programs in the region, and the small scale of the Program, no unsubscribed portion of the Program is expected. However, if after reasonable efforts to promote the Program, it is still not fully subscribed, the remaining portion will be integrated into WPPI's renewable energy portfolio.

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<sup>5</sup> The total costs and resulting subscription fees are estimated assuming 72-cell solar photovoltaic panels rated at 305 Watts per panel.

### Bill Credit

Customers that contribute the one-time subscription fee and enter into an Agreement will receive a production-based credit applied to their retail electric bill each month for the term of the Agreement. For the Project, the term of the Agreement will be 20 years. For any future projects under the Program, the term will not be less than 20 years. All electric energy consumption of participating customers at their residences or businesses will continue to be purchased from NRMEU through the currently-applicable rate tariff. In other words, participating customers will see the bill credit as dollars that offset their monthly utility bill, not as kilowatt-hours that offset their monthly energy consumption.

The bill credit will be based upon the actual monthly energy production output of the applicable project and applied in proportion to each customer's subscription level. The monthly bill credits will be paid by WPPI as a direct and full pass-through to NRMEU on its monthly wholesale power bill, and in turn, NRMEU will credit the participating customers on their monthly retail electric bills. No NRMEU revenues will be used to fund monthly bill credits. Due to timing differences between the monthly meter read for Program projects, the billing cycle for the wholesale power bill from WPPI to NRMEU, and the billing cycle from NRMEU to the participating customers, the customer bill credit may lag NRMEU expects that the lag should not exceed one billing cycle.

The Program bill credit has been determined through a comprehensive wholesale market analysis reflected in confidential Exhibit B. The assessment takes into account wholesale energy, capacity, transmission, and renewable energy market values.<sup>6</sup> This determination of market costs will be locked in and levelized over the term of the Agreement to create a consistent bill credit which is more easily understandable, predictable and translatable for participants, and which provides cost certainty for

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<sup>6</sup> WPPI will retain the environmental attributes associated with each project.

NRMEU, WPPI and its members. For the Program, the rate for bill credit will be \$0.095 per kilowatt-hour, as reflected in the Tariff.

### Participation Limits

Because NRMEU's interest in implementing the Tariff is to respond to customer expectations, the Program model is designed to engage as many participants as possible, while keeping any limits, penalties or disincentives at a minimum. Therefore, the only firm participation limit in this Program will be a 10 kW maximum cap per customer service address.<sup>7</sup> This will ensure no single customer – residential or business – will subscribe more than 4 percent of the Program, and that broader community participation can occur. The kWh output from a 10 kW subscription also approximates the average energy usage of a residential customer.<sup>8</sup>

In some examples of community solar gardens, customers are limited to a specified percentage of their historical kWh energy consumption (e.g., 50% or 120%). The reasoning for this type of limit would be to ensure that the bill credit will never exceed the monthly bill due. Enforcing a percentage limit, however, presents time-consuming and burdensome programmatic challenges, particularly for a small utility like NRMEU, and would add to the administrative responsibilities. NRMEU believes that the 10 kW maximum cap will substantially serve the same purpose as a kWh energy consumption limit without these administrative difficulties.

In addition, the maximum bill credit applied in any month will be limited to the customer's total monthly utility bill. However, any monthly bill credits in a given month exceeding the customer's total

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<sup>7</sup> Based on a 305 W solar panel, the minimum subscription will be 1 panel (305 W) and the maximum subscription will be 32 panels (9,760 W).

<sup>8</sup> For an average residential customer using 750 to 850 kWh per month, the 10 kW maximum subscription cap is equivalent to about 120 percent of their household consumption.

bill will be rolled over and applied to subsequent monthly utility bills, and any unapplied bill credit remaining at the end of the term of the Community Solar Participant Agreement will be paid out to the Participating Customer. NRMEU and WPPI will provide guidance to customers to fully understand the costs and benefits of their participation, and to help determine the most appropriate number of panels for their usage history and budget.

### Subscription Transfer Options

Upon entering into an Agreement, participating customers will have several options available to them if they move or if they cease to be an electric customer of NRMEU:

For a participating customer that is moving within the NRMEU service territory, the customer may:

- transfer their subscription to the participating customer's new electric account
- resell their subscription to another electric account in the NRMEU service territory (including the succeeding account holder at the service address) at a price negotiated by the customers
- donate their subscription to a local non-profit organization (e.g., church or school) with an electric account in the NRMEU service territory
- gift or assign their subscription to a friend or family member with an electric account in the NRMEU service territory

For a participating customer that moves out of the NRMEU service territory or for other reasons ceases to be an electric utility customer, the customer may:

- resell their subscription to another electric account in the NRMEU service territory at a price negotiated by the customers

- donate their subscription to a local non-profit organization (e.g., church or school) with an electric account in the NRMEU service territory
- gift or assign their subscription to a friend or family member with an electric account in the NRMEU service territory
- resell their subscription to NRMEU for a pro-rated portion of the upfront subscription fee, based on the table of declining resale values found in the Tariff.

For a participating customer that ceases to be an electric utility customer and does not exercise one of these transfer options, the subscription will remain with the service address and be applied to the succeeding electric account holder (similar to a rooftop solar electric system physically installed at a home or business).<sup>9</sup>

In order to enact a transfer, a notification of transfer form provided by the host member utility will be completed, and each new participating customer must sign an Agreement. Participation limits and bill credit provisions will be applied to the new service address.

### **C. Conclusion**

NRMEU believes that with WPPI it has developed an attractive and viable pilot community solar program that responds to significant public interest in options to voluntarily participate in local renewable resource projects. The Program will deliver solar projects to subscribing customers with subscription fees, bill credits and paybacks that will be comparable to other solar garden programs in Wisconsin and surrounding states. The Participating customers will bear the costs associated with the

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<sup>9</sup> NRMEU expects to provide assistance to facilitate transfers and sales of subscriptions by maintaining a list of customers expressing interest in assuming the subscriptions of departing customers (including renters), and by providing information that customers may use to estimate the value of a transferred interest. Departing customers would be given contact information for interested customers on the list to negotiate a transfer on terms mutually agreeable to them.

Program; NRMEU is not seeking an increase in rates or a reduction in service for non-participating customers.

The pilot Program will also provide significant experience and data regarding customer interest and participation in community solar programs, as well as production data for utility-scale solar projects. NRMEU notes the conditions contained in the Commission's Final Decision in Docket No. 4220-TE-101 regarding these issues and believes that similar conditions on approval of the proposed Program would be appropriate as follows:

Annual reporting to the Commission on:

- The amount of energy produced by each project
- Hourly production curves for each project by month
- Number of Subscribing Customers
- Average subscription size in kilowatts
- The amount of unsubscribed shares in kilowatts

Thus, NRMEU respectfully requests that the Commission approve the proposed Program and Tariff, with a compliance filing to be made once the subscription fee for the Project is determined.

Respectfully submitted this 14<sup>th</sup> day of July, 2015.



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on Behalf of New Richmond Municipal  
Electric Utility  
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**EXHIBIT A**

**RATE FILE**

Sheet No. 1 of 4

Schedule No. \_\_\_\_\_

**Public Service Commission of Wisconsin**

Amendment No. \_\_\_\_\_

**NEW RICHMOND MUNICIPAL ELECTRIC UTILITY**

**Voluntary Community Solar Pilot (Limited Participation)**

Purpose and Availability

Available to any retail metered utility electric customer who subscribes to a Community Solar project (“Project”) by: (i) paying the applicable one-time subscription fee (“Customer Subscription Fee”); and (ii) entering into a Community Solar Participant Agreement with the utility (“Participating Customers”). The principal focus of this Community Solar program is to provide the benefits of local solar photovoltaic Projects to Participating Customers, who in exchange for providing upfront contributions toward the Project cost, receive monthly financial bill credits based upon their levels of contribution and the electrical output (alternating current) of the Project (“Production Credit”). Each Project is sponsored by the utility and developed by WPPI Energy (“WPPI”), the municipal electric company of which the utility is a member.

Application

Under this program, WPPI will own or purchase the output of one or more Projects totaling in the aggregate 1,000 kW or less. Each Project will: (i) consist of a photovoltaic electric generating installation having a generating capacity nameplate rating of not less than 100 kW and not more than 1,000 kW (“Project Nameplate kW”); (ii) have an executed interconnection agreement with the utility; and (iii) be located in the utility’s electric service territory.

Each Participating Customer in a Project will pay the applicable Customer Subscription Fee to the utility. The Customer Subscription Fee will be based upon the Participating Customer's participation level in a Project (“Customer Subscription kW”), which will be available in whole increments of solar panels up to a maximum of 10 kW per customer service address. Subscribers will be enrolled on a first come, first served basis.

Customer Subscription Fee and Production Credit Rate

For the term of the Community Solar Participant Agreement, which shall not be less than 20 years from the date of commercial operation of a Project, each Participating Customer will receive a monthly production-related credit on their retail electric bill in an amount calculated as follows:

$$\frac{\text{Customer Subscription kW}}{\text{Project Nameplate kW}} \times \text{Monthly Project Energy Production (kWh)} \times \text{Rate}(\$/\text{kWh})$$

For [New Richmond Community Solar Project I] the Customer Subscription Fee is \$[XXXX] per kW.

The Rate is \$0.095 per kWh for the term of the Community Solar Participant Agreement.

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EFFECTIVE:

PSCW AUTHORIZATION:

**NEW RICHMOND MUNICIPAL ELECTRIC UTILITY**

**Voluntary Community Solar Pilot (Limited Participation)**

All Customer Subscription Fees paid to the utility by Participating Customers will be forwarded to WPPI and used by it to offset the costs of funding the Project to which the Customer Subscription Fees apply. WPPI will fund the balance of each Project, including all monthly credits to Participating Customers based on the \$0.095 per kWh Rate and any purchase by the utility of "Utility kW" (defined below). Subscriptions will be cancelled and Customer Subscription Fees refunded to Participating Customers if the Project does not reach commercial operation.

Subscription Transfer

A Participating Customer may transfer some or all of the Customer Subscription kW in a Project from the Participating Customer's service address by completing a notification of transfer form provided by the utility: (i) transferring the Customer Subscription kW (and monthly Production Credits) to another electric service address owned or occupied by the Participating Customer within the utility's service territory; or (ii) transferring the Customer Subscription kW (and monthly Production Credits), and assigning their rights under the Community Solar Participant Agreement to another electric customer of the utility. In either case, the maximum aggregate kW subscription level of 10 kW per customer service address shall apply to the transferee service address following the transfer. In the event that a transfer of Customer Subscription kW to another service address owned or occupied by the Participating Customer would cause the aggregate 10 kW limit to be exceeded, the Participating Customer may resell to the utility the excess portion of the Customer Subscription kW at a percentage of the Customer Subscription Fee based on the Schedule of Utility Purchase Values ("Schedule") found below. For purposes of the Schedule, Year 1 begins on the date of commercial operation of a Project, and the first day of each subsequent year is the anniversary date of commercial operation.

If a Participating Customer moves out of the utility's service territory or for other reasons ceases to be an electric customer of the utility, in addition to the transfer options described above, the Participating Customer may resell to the utility the Customer Subscription kW at a percentage of the Customer Subscription Fee based on the Schedule. If a Participating Customer does not transfer or resell the Customer Subscription kW within 90 days of the date on which the Participating Customer ceases to be an electric customer of the utility, then the Customer Subscription kW (and monthly Production Credits) shall be applied to the succeeding electric account holder of the service address. The succeeding electric account holder must execute a Community Solar Participant Agreement within 90 days of transfer of the Customer Subscription kW to their electric account. If the new utility account holder does not sign a Community Solar Participating Agreement within 90 days, then the Customer Subscription kW (and monthly Production Credits) shall cease to be applied to any customer utility account.

If the utility purchases Customer Subscription kW from a Participating Customer ("Utility kW"), it may resell the Utility kW to another utility electric customer at a percentage of the Customer Subscription Fee based on the Schedule at the time of such resale by the utility.

**NEW RICHMOND MUNICIPAL ELECTRIC UTILITY**

**Voluntary Community Solar Pilot (Limited Participation)**

<b>Schedule of Utility Purchase Values</b>					
<b>Year</b>	<b>Percent of Subscription Fee</b>	<b>Year</b>	<b>Percent of Subscription Fee</b>	<b>Year</b>	<b>Percent of Subscription Fee</b>
1	90	8	20	15	0
2	80	9	10	16	0
3	70	10	5	17	0
4	60	11	5	18	0
5	50	12	5	19	0
6	40	13	0	20	0
7	30	14	0		

For transfers that do not coincide with the utility’s billing cycle, the production-related credits for the month in which the transfer occurs will be applied to the transferee’s bill.

Except as provided herein, no refund of any portion of the Customer Subscription Fee will be paid to a Participating Customer by the utility upon transfer or termination.

Terms and Conditions

1. In addition to the Rate above, all terms and conditions of delivery of the applicable rate schedule under which the customer is currently served are applicable.
2. Each Participating Customer must enter into a Community Solar Participant Agreement with the utility. The Community Solar Participant Agreement will have a term of not less than 20 years, as determined by WPPI, from the commercial operation date of the Project.
3. All Project capacity and energy produced, and all Project environmental attributes remain the property of WPPI.
4. The utility will use meter data measuring the output of the Project to calculate the monthly credit due to each Participating Customer, which will be included as a Production Credit on the Participating Customer’s utility bill. The monthly Production Credit will not exceed the total monthly utility bill. Any excess Production Credit will be rolled over and applied to the next month’s utility bill, and any unapplied Production Credit remaining at the end of the term of the Community Solar Participant Agreement will be paid out to the Participating Customer. The month to which the Project Production Credit is applicable will not necessarily match the billing period for the retail electric service bill in which the Project Production Credit is applied.

**NEW RICHMOND MUNICIPAL ELECTRIC UTILITY**

**Voluntary Community Solar Pilot (Limited Participation)**

5. The utility will use commercially reasonable efforts to ensure that WPPI causes the Project to be operated and maintained in a manner consistent with prudent utility practice.
6. This program is limited and subject to WPPI's development of Projects and the maximum subscription capacity of each Project determined by WPPI.
7. The utility reserves the right to deny or terminate subscriptions of Participating Customers under this tariff to customers in arrears with the utility.

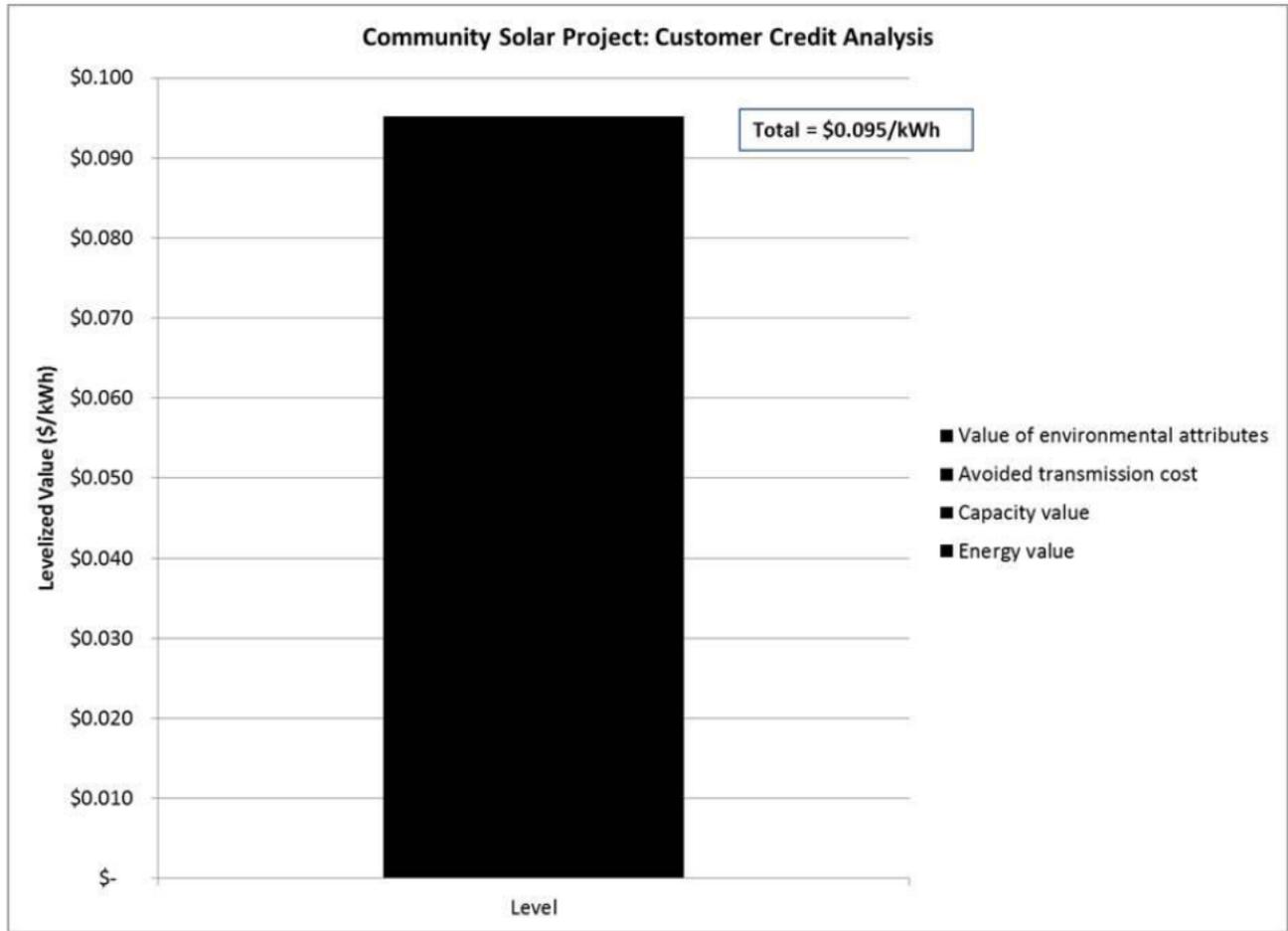
**CONFIDENTIAL - EXHIBIT B**

**Community Solar Project: Customer Subscription Fee Analysis**

Estimated NPV of Total Project Costs <sup>1</sup>	Customer Subscription Fee		Approximate Payback <sup>2</sup>
	Per kW	Per Panel	In Years
[REDACTED]	[REDACTED]	[REDACTED]	14 - 16

<sup>1</sup> Estimated NPV of total project costs assumes [REDACTED]

<sup>2</sup> Payback for participating customers refers to the number of years it will take for cumulative bill credits to equal the subscription fee. Customer payback is expected to fall in the range stated in the table but will be dependent on actual system performance and seasonal weather trends.



[REDACTED]